

FSR X™

Force Sensing Resistors®



Global human machine interface (HMI) leader, Interlink Electronics—the originator of the Force Sensing Resistor* (FSR)—expands its signature line of sensors with the FSR X.

The improved design of the FSR X offers a greatly expanded dynamic sensing range that extends from 0.3N to 50N, providing enhanced precision and broadening the scope of the FSR X's potential applications.

The FSR X 400 series comprises a full range of models in various sizes, shapes, and configurations, all of which can be utilized for custom sensing solutions.

FEATURES

- Improved sensing range extends from 0.3N to 50N
- Ultrathin form factor
- Able to withstand extreme temperatures and conditions
- Tested to 10 million actuations
- Simple and easy to integrate
- Customizable to a wide range of applications
- Cost effective

APPLICATIONS

- Industrial
- Robotics
- Medical
- Automotive
- Computing
- IoT
- Wearable Technology

*Force Sensing Resistors are robust polymer thick film (PTF) devices that exhibit a decrease in resistance when increased force is applied to the surface of the sensor.

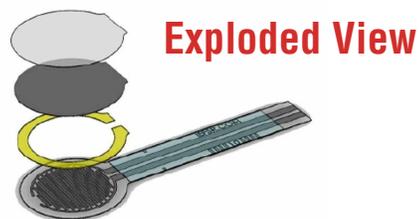
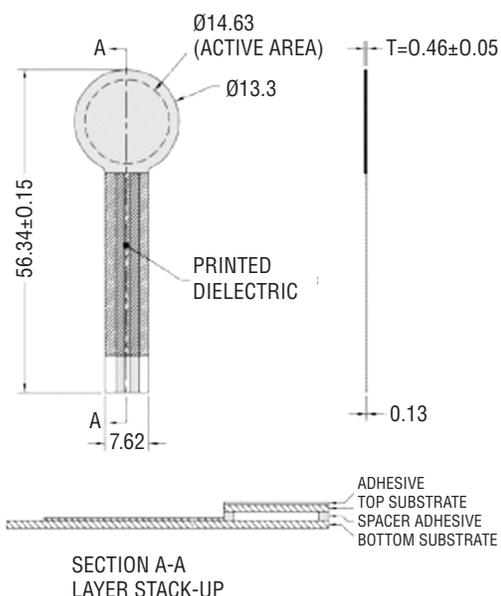


Device Characteristics

Sensor Resistance Output	Analog
Actuation Force	0.3N (min)
Force Sensing Range	0.3N – 50N
Force Repeatability Single Part	+/-2%
Force Repeatability Part to Part	+/-6% (Single Batch)
No-Load Resistance.....	>10 M Ω
Hysteresis	+5% (RF+ – RF-)/RF+
Long Term Drift @ 5kg, 10 days	<4% log ₁₀ (time)
Operating Temperature Performance	
Cold: -25°C after 1 hour	+2% resistance change
Hot: +85°C after 1 hour	+9% resistance change
Storage Temperature Performance	
Cold: -40°C after 120 hours.....	+1% resistance change
Hot: +85°C after 120 hours	+3% resistance change
Tap Durability	
Tested to 10 Million actuations @1kg, 4Hz.....	-13% resistance change
Thermal Shock @85°C to -40°C, 20 Cycles.....	+13% resistance change
Standing Load Durability	
2.5kg for 24 hours	-5% resistance change
UL	All materials UL grade 94 V-1 or better
RoHS.....	Compliant

Sensor Mechanical Data:

Active Area: Ø14.68mm
Nominal Thickness: 0.46mm
Switch Travel: 0.15mm



United States Corporate Office

Interlink Electronics, Inc.
1267 Flynn Road
Camarillo, CA 93012, USA

Phone: +1.805.484.8855
Fax: +1.805.484.9457

InterlinkElectronics.com

Sales & Support: sales@iefsr.com

Interlink Electronics reserves the right to make changes without further notice to any products or specifications herein and does not assume any responsibility or liability arising out of the application or use of any its products or circuits.

NOTES

- Specifications are derived from measurements obtained at 2,500 grams force, unless otherwise stated. Measurements are dependent on actuation interface, mechanism and measurement electronics.
- The test was performed using FSR X™ 402 design.
- Additional information is available upon request.